

A REVISION OF *ACACIA LYCOPODIIFOLIA* A. CUNN. EX HOOK. AND ITS ALLIES

By L. PEDLEY

Queensland Herbarium, Brisbane

SUMMARY

Those species of the subseries Brunioideae with regular verticillate leaves are revised. A key for the identification of 12 species is provided. All taxa are described and maps showing their distribution are included. *A. adoxa*, *A. adoxa* var. *subglabra*, *A. chippendalei*, *A. longipedunculata*, *A. orthotricha* and *A. perryi* are described as new. *A. galioides* var. *glabriflora*, *A. galioides* var. *leioclada*, and *A. baueri* ssp. *aspera* are new combinations based on *A. glabriflora* Domin, *A. leioclada* Domin, and *A. baueri* var. *aspera* Maiden & Betche respectively.

INTRODUCTION

When Bentham, Hook. Lond. J. Bot. 1 : 320 (1842), described Brunioideae as a subseries of the series Phyllodineae, one group consisting of *Acacia lycopodiifolia* and the previously undescribed species, *A. galioides*, *A. hippuroides* and *A. baueri*, was described as "Phyllodiis omnibus verticillatis". The other group, *A. brunioides* and the new species *A. ericifolia* (later transferred by Bentham to Calamiformes) and *A. conferta*, was described as "Phyllodiis sparsis confertis v. subverticillatis". This classification was maintained by Bentham, Linnaea 26 : 614 (1853), and Mueller, J. Linn. Soc. 3 : 123 (1859), but Bentham, Fl. Aust. 2 : 306 (1864), treated Brunioideae as a series without subdivision, possibly because he regarded *A. subternata* F. Muell. as being somewhat intermediate between the groups originally recognized. In Bentham's final classification (Trans. Linn. Soc. Bot. 30 : 445 (1875)), Brunioideae were again reduced to a subseries.

The Brunioideae may be subdivided, in much the same way as was done originally by Bentham, into two groups—one consisting of species with phyllodes in regular whorls and the other with species, including *A. subternata*, with phyllodes subverticillate, in groups, or merely crowded. The second group was recognized as having affinities with Uninerves and its circumscription has since been widened by the addition of *A. minutifolia* F. Muell., *A. rossei* F. Muell., *A. cometes* C. Andr., *A. sorophylla* Pritzl, *A. rupprii* Maiden & Betche, and *A. gittinsii* Pedley. An elucidation of its relationships would be difficult and would involve a study of species, some of them little known, from many parts of Australia, and is outside the scope of this paper.

The first group is more homogeneous. The tropical species are closely related to each other, though not to the two extratropical ones which are themselves only rather remotely interrelated. *A. baueri* has an affinity with *A. conferta* and *A. brunioides* in the other part of the Brunioideae, and *A. cedroides* shows some similarity to *A. verticillata* (L'Herit.) Willd. placed by Bentham in the Pungentes.

MORPHOLOGY

All species of the group are low, much-branched shrubs, usually less than 1 m tall, rarely up to 3 m. The phyllodes are arranged in regular whorls with conspicuous stipules alternating with the phyllodes, except sometimes in *A. baueri*. The phyllodes are either slightly flattened dorsally (depressed) or, in *A. baueri*, laterally flattened (compressed), or in *A. cedroides* compressed with a prominent raised rib on each face. On the upper surface of the vertically flattened phyllodes there is often a rather obscure impressed nerve. Foliar glands are not evident. The length of the stipules and phyllodes, and their number in each whorl are variable, but are in some cases of value in distinguishing species.

The phyllodes are usually contracted into points. In *A. lycopodiifolia* these are distinct setae which may be as long as the rest of the phyllode. The phyllodes of *A. perryi* are broader than those of other species and are narrowed rather gradually into points.

The branchlets of most species are terete and, except in *A. cedroides*, not markedly ribbed. In most species the internodes may be much longer (up to five times) than the length of the phyllodes, but this character probably depends on the vigour of the shoot and is of little taxonomic significance.

Simple hairs are found on almost all parts of the plants. The hairs on the branchlets of *A. galioides* are short (rarely more than 0.1 mm long) while in other species they are conspicuously longer (at least 0.3 mm and up to 1 mm). The density of the indumentum varies to some extent within each species. Markedly less hairy variants of some species have been formally recognized.

The inflorescence of all species consists of a head of flowers on an axillary peduncle. The number of flowers in the head and the length of the peduncle, particularly in relation to the length of the phyllodes, are of taxonomic value, though there is considerable variation within species.

Each flower is subtended by a concave, long-pointed bracteole which in some species is much longer than the flowerbud.

The calyx is of considerable value in distinguishing and grouping species. In all species it is 5- or occasionally 6-lobed. In *A. perryi* and *A. asperulacea* the lobes of the calyx may be divided so that the number of lobes varies from 5 to 10. Four main types of calyx may be distinguished:

- (1) Tube neither conspicuously ribbed nor thickened; the lobes thin. *A. cedroides*, *A. longipedunculata*, *A. spondylophylla*.

- (2) Tube with conspicuous longitudinal ribs (rather membranous between them at the top); each rib produced into a thick linear, often incurved lobe. *A. adoxa*, *A. baueri*, *A. lycopodiifolia*. *A. hippuroides* with a very small tube and long lobes may be considered an extreme variant of this type.
- (3) Tube conspicuously ribbed, the lobes broader; each lobe may be divided into two. *A. asperulacea*, *A. perryi*.
- (4) Tube with broad ribs but the lobes short and obtuse. *A. galioides*. *A. chippendalei* and *A. orthotricha* which have a tube with rather broad ribs very close together or coalescing to give a smooth surface, and with obtuse, acute or acuminate lobes rather broad at the base, are best placed here though they are related to species in 2 and 3.

Calyxes of all species except *A. asperulacea* and *A. cedroides* are shown in Figure 1.

Most species have tubular corollas with 5 or rarely 6 lobes. The petals may be marked with prominent, longitudinal, slightly anastomosing ribs which give the buds a characteristic striate appearance. Species with striate corollas usually have ribbed calyces.

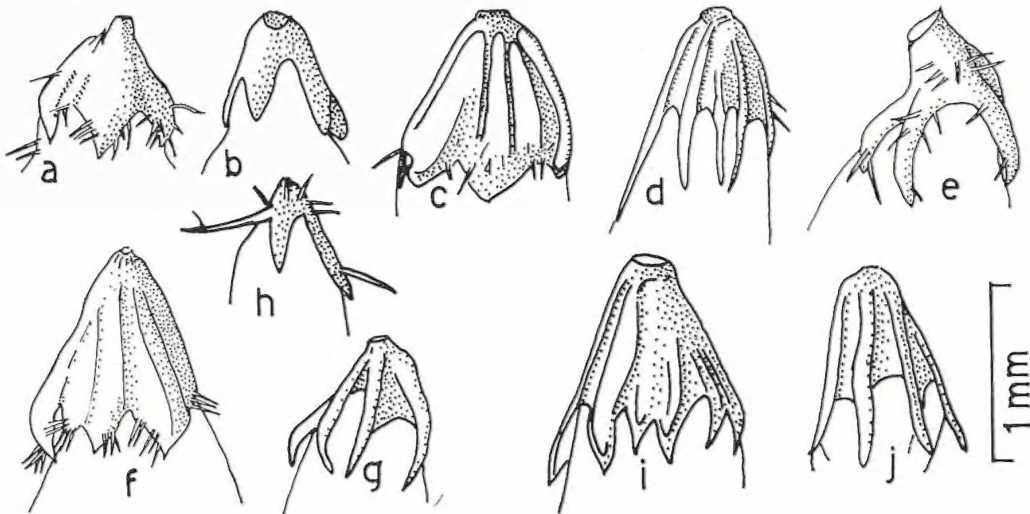


Fig. 1. Calyces. a: *A. chippendalei*, Chippendale 1532 (Type); b: *A. spondylophylla*, Pedley 2026; c: *A. galioides* var. *glabriflora*, Cockburn s.n.; d: *A. lycopodiifolia*, Lazarides 5068; e: *A. longipedunculata*, Bennett s.n.; f: *A. orthotricha*, Douglas s.n.; g: *A. adoxa* var. *subglabra*, Burbidge 1609 (Type); h: *A. hippuroides*, Beard 4078; i: *A. perryi*, Blake 16015 (Type); j: *A. baueri*, Lovell s.n.

The majority of tropical species has linear compressed pods, occasionally stipitate, slightly raised along the midline with usually glabrous, cartilaginous valves. The seeds of *A. hippuroides* and *A. spondylophylla* are transverse and the pods have less cartilaginous valves with rather long hairs. The seeds of *A. adoxa* and *A. orthotricha* are also transverse, but the pods are glabrous. Few mature seeds of any species have been seen.

The relationships of tropical species are indicated in Figure 2. This should be regarded as a horizontal classification rather than the presentation of a "family tree".

I have been unable to assign a few collections with certainty to any species. These variants have been discussed individually but have not been described as new taxa—a procedure which would be highly speculative considering the paucity of the material.

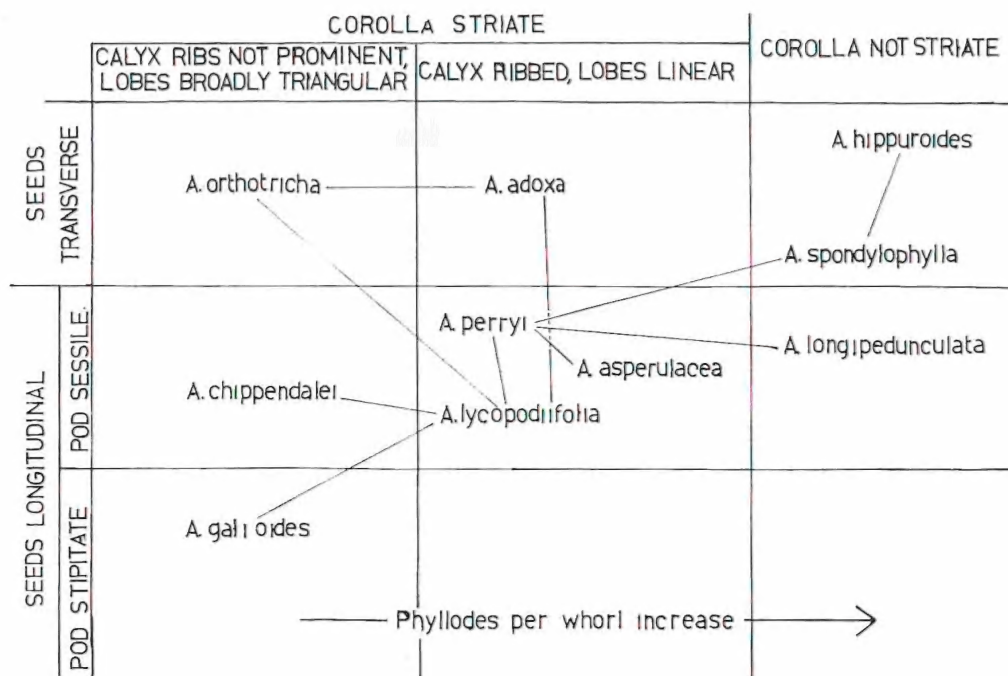


Fig. 2. Affinities of tropical species of *Acacia* related to *A. lycopodiifolia*.

DISTRIBUTION AND ECOLOGY

Except for *A. baueri* and *A. cedroides* the species occur in Australia north of 20° S. lat. within the 40-inch isohyet. *A. cedroides* is restricted to a small area of south-western Australia near Mount Barren, and *A. baueri* ranges from Port Jackson to Fraser Island in coastal heath, but is also found in the Blue Mountains. Ranges of all species are given in Figure 3.

Of the tropical species *A. galioides* and *A. spondylophylla* have the widest ranges while those of *A. hippuroides*, *A. orthotricha* and *A. longipedunculata* are very restricted. The eastern part of the Kimberley region of Western Australia and adjoining parts of the Northern Territory has the greatest concentration of species (five) and has also been the source of some collections which I have not been able to place satisfactorily.

The tropical species occur in full sun on soils of low fertility, on shallow rocky soils or sand (often of lateritic origin).

TAXONOMY

Key to Species

Branchlets prominently ribbed; phyllodes produces into a pungent point laterally compressed with prominent raised nerves on each side and prominent marginal nerves, the lower one sometimes double so that the phyllode is 4-5-gonous in section 4. *A. cedroides*

Branchlets not prominently ribbed; phyllodes without prominently raised nerves:

Corolla striate, i.e. with distinct longitudinal nerves (sometimes anastomosing) prominent in bud:

Pods with stipes more than 7 mm long; hairs on phyllodes less than 0.1 mm long or absent; phyllodes in whorls of 5-9, 2-8 mm long on fertile shoots (longer on sterile ones)

6. *A. galioides*

Branches, phyllodes and flowers glabrous 6c. *A. galioides* var. *leioclada*

Branches pubescent, phyllodes sometimes glabrous, corolla usually with some hairs in the upper half:

Phyllodes pubescent 6a. *A. galioides* var. *galioides*

Phyllodes glabrous 6b. *A. galioides* var. *glabriflora*

Pods sessile, rarely apparently on stipes up to about 5 mm long; hairs on phyllodes usually at least 0.2 mm long or absent; phyllodes in whorls of 6-15, 2-18 mm long:

Calyx with linear or subulate, thick, often incurved lobes, $\frac{2}{3}$ to as long as the tube which has prominent longitudinal ribs:

Seeds transverse; phyllodes 6-9 (-10) per whorl, 2-7 mm long; bracts setose towards the apex (except in *A. adoxa* var. *subglabra*) 1. *A. adoxa*

Indumentum of stems and phyllodes dense 1a. *A. adoxa* var. *adoxaxa*

Indumentum of stems sparse, of phyllodes very sparse or absent 1b. *A. adoxa* var. *subglabra*

Seeds longitudinal; phyllodes (8-) 10-15 (-16) per whorl, to 18 mm long; bracts (very prominent in some species) often glabrous:

Phyllodes up to 5 mm long (to 8 mm on sterile shoots), abruptly contracted into setaceous points usually 0.4 mm or more long sometimes as long as the rest of the phyllode. 9. *A. lycopodiifolia*

Phyllodes sometimes tapering into rather long points but not abruptly contracted into setaceous points, 6-18 mm long:

Branchlets with indumentum of moderately dense to dense hairs; phyllodes usually definitely flattened, slightly recurved at the apex, produced into a point 0.4-1.2 mm long, (6-) 8-15 (-18) mm long; stipules 2-2.4 (-3.2) mm long 11. *A. perryi*

Branchlets glabrous or with indumentum of rather sparse hairs; phyllodes less definitely flattened, strongly recurved towards the apex, the point shorter, 6-11 (-13) mm long; stipules up to 2 mm long 2. *A. asperulacea*

Calyx with short broadly triangular, obtuse, acuminate or lacinate lobes, 0.3-0.4 mm broad at the base, tube rather obscurely ribbed; phyllodes 7-11 per whorl, 2.5-9 mm long:

Phyllodes \pm straight, the hairs 0.2-0.3 mm long; calyx 0.6-0.9 mm long; seeds longitudinal 5. *A. chippendalei*

Phyllodes incurved (slightly recurved at the apex), the hairs 0.4 mm long; calyx 1-1.4 (-1.6) mm long; seeds transverse 10. *A. orthotricha*

Corolla not striate:

Phyllodes slightly laterally compressed, recurved at apex; stipules absent or up to 0.8 mm long; whorls of 6-8 (-9): 3. *A. baueri*

Phyllodes in regular whorls, not conspicuously tuberculate, less than 0.6 mm broad; peduncles 6-15 mm long 3a. *A. baueri* ssp. *baueri*

Phyllodes in whorls or scattered, tuberculate, 0.7-1.2 mm broad; peduncles up to 5 mm long 3b. *A. baueri* ssp. *aspera*

Phyllodes somewhat flattened vertically; stipules always present, at least 1 mm long; whorls of 8-27:

Phyllodes 8-12 (-14) per whorl, (5-) 6-10 mm long; corolla (1.6-) 1.8-2.2 (-2.3) mm long 12. *A. spondylophylla*

Phyllodes 12-27 per whorl, 10-25 mm long; corolla 2.0-2.8 mm long:

Calyx 0.4-0.6 mm long, deeply lobed with a few hairs at the base; 12-15 phyllodes per whorl; hairs often yellowish 7. *A. hippuroides*

Calyx 1.2 mm long, with lobes 0.4-0.6 mm long, a few hairs on the back; 15-27 phyllodes per whorl; indumentum usually whitish 9. *A. longipedunculata*

1. *Acacia adoxa* sp. nov. affinis *A. lycopodiifoliae* A. Cunn. ex Hook. leguminibus seminibus transversis et verticillis phyllodiis 6-10 sine setis differt. Typus: *Chippendale* in NT.2191 (holotypus BRI. 006361; isotypi CANB, MEL, NT, PERTH).

Frutex effusus minus quam 0.5 m altus; internodia interdum longa usque ad 4-plo longiora quam phyllodia. Phyllodia ascendentia, recta vel apicem versus leviter recurvata, crassa, applanata, mucrone obliquo usque ad 0.2 mm longo vel raro longiore et nervo impresso supra et obscuro nervo subtus praedita, 2-5 (-7) mm longa usque ad 0.4 mm lata, in verticillos 6-10-na disposita; stipulae glabrae lineares 0.8-1.2 mm longae. Capitula (20-) 25-30 (-50)-flora pedunculis 6-15 mm longis indumento simili illi ramulorum praeditis; receptaculum pilis longis aliquot inter flores instructum; bracteolae lineares acutae 1.6-2 (-2.4) mm longae. Flores striati 5-6-meri; calyx (0.5-) 0.6-0.8 (-1) mm longus, ex tubo glabro anguste obconico (ca 0.5 mm lato basi loborum) in lobos crassos lineares leviter incurvatos 0.3-0.4 (-0.5) mm longos producto constans; corolla longitudinaliter costata, 1.6-2.2 (-2.4) mm longa lobis crassis incurvatis 0.7-0.8 mm longis praedita; pistillum glabrum. Legumina sessilia 25-60 mm longa 6-7 mm lata, valvis glabris viscidis margine incrassato super semina convexis. Semina oblonga 4 mm longa 3 mm lata, arillo brevi instructa, transverse vel leviter oblique disposita.

A spreading shrub less than 0.5 m tall; the internodes sometimes long, up to 4 times as long as the phyllodes. Phyllodes ascending, straight or slightly recurved toward the apex, thick, flattened, with an oblique mucro up to 0.2 mm long or rarely longer, with an impressed nerve on the upper surface and an obscure nerve beneath, 2-5 (-7) mm long up to 0.4 mm broad, 6-10 per whorl; stipules glabrous linear, 0.8-1.2 mm long. Heads (20-) 25-35 (-50)-flowered with peduncles 6-15 mm long with the indumentum similar to that of the branchlets; receptacle with a few long hairs between the flowers; bracteoles linear, acute, 1.6-2 (-2.4) mm long. Flowers striate, 5-6-merous; calyx (0.5-) 0.6-0.8 (-1) mm consisting of a narrowly obconical glabrous tube (ca 0.5 mm broad at base of lobes) produced into thick linear slightly incurved lobes 0.3-0.4 (-0.5) mm long; corolla longitudinally ribbed 1.6-2.2 (-2.4)

mm long with thick incurved lobes 0.7–0.8 mm long; pistil glabrous. Pods sessile, 25–60 mm long, 6–7 mm broad, with viscid glabrous valves, with a thickened margin, convex over the seeds. Seeds oblong 4 mm long, 3 mm broad, with a short aril, arranged transversely or slightly obliquely.

1a. *A. adoxa* var. *adoxo*

Ramuli pilis confertis albis mollibus erectis vel leviter resupinis ca 0.4 mm longis induti. Phyllodia pilis parce confertis leviter pronis ca 0.2 mm longis obsita. Bracteolae in dimidio superiore setosae. Lobi calycis corollaeque hispidi pilis 0.2–0.4 mm longis vestiti.

Branchlets covered with dense, white, soft, erect or slightly retrorse hairs ca 0.4 mm long. Phyllodes with indumentum of moderately dense slightly curved hairs ca 0.2 mm long. Bracteoles setose in the upper half. Calyx lobes and corolla lobes hispid with hairs 0.2–0.4 mm long.

WESTERN AUSTRALIA: Harding River, in 1895, *Cusack* (MEL); South Barlee Ra., Sept. 1959, *Robinson* (PERTH); Hamersley Ra., July–Aug. 1958, *McMillan* (PERTH); Dale Gorge road, 14 miles from main road, Mar. 1962, *George* 3579 (PERTH); 10–50 miles NE. of "Callawa", May 1965, *Beard* 4030 (PERTH); between De Grey R. & Lagrange B., in 1879, *Forrest & Carey* (MEL); "Anna Plains", 80 mile Beach, July 1941, *Burbidge* (PERTH); Great Sandy Desert 21° S., 123½° E., Apr. 1964, *Beard* 3207 (PERTH); about 200 miles SSW. of Broome, Aug. 1962, *Johnson* in NT. 9760 (PERTH, NT); base of Mt. House, May 1905, *Fitzgerald* 972 (NSW, PERTH); "Bohemia Downs", May 1944, *Gardner* 7126 (PERTH); 43 miles W of Margaret R. between Halls Creek and Fitzroy Crossing, Aug. 1965, *Beaglehole* 11139 (PERTH); Fitzroy Crossing, in 1949, *Guppy* Q3 (PERTH); Ord River, in 1886, *O'Donnell* (MEL); Kimberley, in 1938, *Barnett* (PERTH).

NORTHERN TERRITORY: 2 miles W of Tanami Bore, May 1967, *Nicholls* 565 (NT, NSW); Tanami, *Rose* 169 (CANB) July 1948, *Banks* in NT.4062; 9 miles ESE of Tanami, Apr. 1959, *Lazarides* 6251 (CANB, BRI, MEL); 16.3 miles SE. of Tanami, May 1958, *Chippendale* in NT.4249 (NT, MEL, PERTH); 36.8 miles NE of Tanami, April 1959, *Chippendale* in NT.5647 (NT, BRI, CANB, MEL, PERTH); 27 miles S of "Wave Hill", July 1956, *Chippendale* in NT.2191 (NT, CANB, MEL, PERTH); 30 miles SSW of "Wave Hill", June 1949, *Perry & Lazarides* 2209 (CANB, BRI, MEL, PERTH); Vaughan Springs, July 1954, *Winkworth* 413 (CANB, MEL).

Acacia adoxa var. *adoxo* is widely spread in Western Australia north from about 20° S. to the southern part of the Kimberley region on sand (often lateritic) and on shallow stony soil. A specimen labelled Port Darwin, *A. Forrest* (MEL) is considered to be wrongly labelled.

The variety has been generally confused with *A. lycopodiifolia* which it resembles in indumentum and habit. The arrangement of the seeds in the pod, the lack of setae on the phyllodes, and the fewer phyllodes per whorl distinguish the two taxa.

1b. *Acacia adoxa* var. *subglabra* var. nov.

A. adoxa var. *adoxo* indumento nullo vel multum sparsiore differt. Ramuli glabri vel pilis sparsis usque parce confertis induti. Phyllodia glabra vel haec et bracteolae in dimidio superiore pilis sparsissimis obsita. Lobi calycis corollaeque glabri vel pilis tantum paucis vestiti. Holotypus: *Burbidge* 1609 (PERTH).

Differs from *A. adoxa* var. *adoxo* in the absence of or much sparser indumentum. Branchlets glabrous or covered with sparse to moderately dense hairs. Phyllodes glabrous or they and the bracteoles in the upper half with a few hairs. Calyx and corolla lobes glabrous with only few hairs.

WESTERN AUSTRALIA: De Grey Station, July 1941, *Burbidge* 1609 (PERTH); De Grey R. district, June 1933, *Wise* (PERTH); Broome, Apr. 1905, *Fitzgerald* 102 (PERTH); Roebuck Bay, July 1889, *Tepper* 158 (PERTH), without date, *Tepper* 14 (MEL), and *Martin* 61 (MEL); Great Northern Highway, 20 miles out of Broome, July 1967, *Olsen* 504 (NSW); South Kimberley, in 1884, *Panton* (MEL).

Acacia adoxa var. *subglabra* occupies similar habitats to *A. adoxa* var. *adoxo* but is restricted to coastal regions of Western Australia from the De Grey River to Broome.

Despite the fact that it differs from var. *adoxo* only in the sparser indumentum on all parts of the plant it is a taxon with quite a distinctive appearance. It has on occasions been confused with *A. asperulacea* (*A. lycopodiifolia* var. *glabrescens*), but the two are not particularly closely related.

2. *Acacia asperulacea* F. Muell. J. Linn. Soc. 3 : 123 (1859). Holotype: Upper Victoria River, *F. Mueller* 73 partim (MEL).

A. lycopodiifolia A. Cunn. ex Hook. var. *glabrescens* Benth. Fl. Aust. 2 : 342 (1864). Based on *A. asperulacea*.

A. galioides Benth. var. *asperulacea* (F. Muell.) Domin, Bibl. Bot. 86 : 252 (1926). Based on *A. asperulacea*.

A shrub up to about 1 m tall, branchlets somewhat resinous, glabrous or with an indumentum of rather sparse somewhat retrorse lax hairs 0.4 mm long, the internodes often long, up to 3 times as long as the phyllodes. Phyllodes ascending, straight or recurved at the apex, slightly flattened with an impressed nerve on the upper surface, produced into a point ca 0.4 mm long, glabrous or with scattered hairs 0.2 mm long, 6–11 (–13) mm long, (8–) 10–14 per whorl; stipules setaceous, glabrous, up to 2 mm, rarely 2.5 mm long. Heads 15–30-flowered on peduncles 10–25 mm long with indumentum similar to that of the branchlets; receptacle glabrous or with a few hairs; bracteoles linear up to 2 mm long. Flowers striate 5–6-merous; calyx (similar to that of *A. perryi*) glabrous, ribbed, 0.6–0.9 mm long, with thick linear incurved lobes 0.2–0.4 mm long; corolla striate, rather thick, 1.8–2.2 mm long with thick incurved lobes 0.6–1 mm long, sparsely hispid on the back; stamens ca 4 mm long; pistil glabrous. Pods linear, sessile or on stipes up to 5 mm long, glabrous, 35 mm long, ca 6 mm broad, raised along the middle with slightly thickened margins; seeds longitudinal.

NORTHERN TERRITORY: Upper Victoria River, *Mueller* 73 partim (MEL); Jasper Gorge, 16° 02' S. 130° 41' E., May 1968, *Byrnes* NB. 764 (NT); 30 miles S. of "McArthur River", July 1948, *Perry* 1689 (CANB, MEL, BRI).

QUEENSLAND: Burke District: Settlement Creek, Apr. 1922, *Brass* 151 (BRI, CANB, MEL); "Westmoreland", *Whitehouse* (BRI); "Lawn Hill", May 1940, *Jensen* 86 (BRI); Adel's Grove, [18° 42' S. 138° 31' E.], *de Lestang* 192 (BRI); Pilpah Hills, 7 miles N. of "Barkly Downs", Oct. 1962, *Pedley* 1080 (BRI, NSW, MEL); in Gunpowder Creek area, May 1963, *Gittins* 777 (BRI, MEL); 14 miles SW. of "Kamilaroi", Aug. 1953, *Lazarides* 3972 (CANB, NT, BRI, MEL, PERTH); Cloncurry, Flinders River, in 1876, *Henry* (MEL), at or near the Mackinlay Ranges, in 1876, *Sutherland* (MEL).

Acacia asperulacea occurs on shallow stony soil in the extreme north-west of Queensland (western part of the Burke district), and adjacent parts of the Northern Territory. The type specimen comes from the Upper Victoria River, where the species is probably not common as I have seen only one other specimen from the locality (*Byrnes* NB.764).

The affinities and rank of the taxon have been in question since Mueller described it. Bentham regarded it as a variety of *A. lycopodiifolia* and Domin referred it to *A. galioides*.

Its nearest relative is *A. perryi* but it is more glabrous, has less flattened phyllodes, and less prominent stipules and bracteoles. Its internodes are usually quite long, in contrast with those of *A. perryi* which are short. It lacks the setae of *A. lycopodiifolia* and its phyllodes are longer and often recurved. Its indumentum suggests that its relationship to *A. galioides* is more distant. Its pods are sometimes stipitate, but this seems to be due to the occasional abortion of the lowest seed rather than to the consistent development of a stipe.

3. *Acacia baueri* Benth. Hook. Lond. J. Bot. 1 : 344 (1842), Fl. Aust. 2 : 342 (1864); F. Muell. Iconogr. Aust. Acacia Dec. 3 : t. 4 (1887). Type: Australia, *Bauer* (not seen).

An erect shrub less than 0.5 m tall; branchlets terete, glabrous or with an indumentum of sparse to moderately dense antrorse white hairs 0.4 mm long, sometimes tuberculate. Phyllodes straight or recurved in the upper half, or only at the apex, mucronate, slightly laterally compressed with an obscure longitudinal nerve on each side, glabrous or occasionally tuberculate or with scattered white hairs similar to those of the branchlets, 7–16 mm long, 6–8 (–9) per whorl, very rarely scattered; petioles 0.4–0.6 mm long; stipules up to 0.8 mm long, often absent. Heads 10–15-flowered, on peduncles 2–15 mm long; receptacle pubescent; bracteoles linear-lanceolate, concave, acute, ca 1 mm long with a few hairs. Flowers not striate, 5-merous; calyx 0.7–1.1 mm long with rather thick lobes 0.25–0.5 mm long, glabrous or fringed with hairs; corolla 1–1.6 mm long, glabrous, with lobes ca 0.3–0.5 mm long; ovary glabrous, with a few appressed white hairs or densely pubescent. Pod linear, sessile up to 25 mm long, 2–3 mm broad, glabrous or with extremely sparse appressed hairs mainly at the base. Seeds longitudinal, \pm cylindric, 4–5.5 mm long, 2–2.5 mm broad the funicle folded and thickened into a cupular aril.

3a. *Acacia baueri* ssp. *baueri*.

Branchlets glabrous or pubescent, not often tuberculate. Phyllodes usually in regular whorls usually not conspicuously tuberculate, less than 0.6 mm broad. Peduncles 6–15 mm long. Calyx 0.8–1.1 mm long with lobes 0.3–0.5 mm long glabrous or with a few fringing hairs; corolla 1.2–1.6 mm long, ovary sometimes with a few appressed hairs but not densely pubescent.

QUEENSLAND: Wide Bay District: Fraser Island, Oct. 1921, *White & Epps* (BRI), Oct. 1930, *Hubbard* 4632 (BRI), Lovell (BRI), without date or collector (MEL); Moreton District: Beerwah, June 1951, *Johnson* NSW.101416 (NSW); Bribie I., Apr. 1944, *Clemens* (BRI); Stradbroke I., May 1944, *Clemens* (BRI); Hollywell near Southport, Dec. 1966, *Pedley* 2178 (BRI); Burleigh Heads, *Scortechini* 282 (MEL).

NEW SOUTH WALES: North Coast: Richmond River, in 1878 and 1879, *Fawcett* (MEL); South West Rocks off road around Trial Bay, Mar. 1963, *Anon* NSW.101410 (NSW); Arakoon-South West Rocks, Jan. 1953, *Ingram & Constable* NSW.22244 (NSW); Nابیac, *Coveny* NSW.85092 (BRI, NSW); Port Stephens, May 1912, *Boorman* NSW.102391 (BRI, NSW). Central Coast: Port Jackson District, Oct. 1897, possibly *Maiden* (MEL); Botany Bay, Apr. 1911, *Blakely* in *Herb. Rodway* No. 11946 (NSW).

Acacia baueri ssp. *baueri* occurs on infertile, often seasonally waterlogged sands in coastal heath (wallum) from Fraser Island to Botany Bay. It is not a common plant and is in danger of extinction in the extreme south-east of Queensland and in the Sydney area.

It is not closely related to the tropical species dealt with. The compression rather than depression of its phyllodes and its frequent lack of stipules suggest some affinity with *A. brunioides* A. Cunn. ex G. Don and more remotely with *A. conferta* A. Cunn. ex Benth.

3b. *Acacia baueri* ssp. *aspera* (Maiden & Betche) stat. nov.

A. baueri Benth. var. *aspera* Maiden & Betche, Census Fl. N.S.W. 90 (1916); Tindale, Contrib. N.S.W. Nat. Herb. 4 : 75 (1968). Lectotype: Wentworth Falls, Jan. 1907, *Forsyth* (NSW.101405).

Branchlets tuberculate, pubescent. Phyllodes in oblique whorls or scattered along the stem, 0.7–1.2 mm broad, with scattered tubercle-based hairs when young, glabrescent, the tubercles up to 0.1 mm high. Peduncles 2–4 mm long (5 mm in fruit), usually hidden by the phyllodes. Calyx 0.7–0.9 mm long with lobes 0.25–0.35 mm long, fringed with hairs; corolla 1–1.2 mm long; ovary usually densely hairy.

NEW SOUTH WALES. Central Coast: Wentworth Falls, Blue Mountains, Apr. 1906 and Jan. 1907, *Forsyth* NSW.101404 and NSW.101405; Wentworth Falls, Kings Tableland, Jan. 1915, *Hamilton* NSW.101390, Apr. 1962, *Burgess* NSW.101388; Keira at the junction of Wilton and Mt. Ousley roads, Nov. 1965, *Tindale* NSW.79133; La Perouse, Botany Bay, in 1898, *Camfield* NSW.101415.

Two of the specimens cited above (NSW.101415 and NSW.79133) possibly represent populations intermediate between *A. baueri* ssp. *aspera* and *A. baueri* ssp. *baueri*. NSW.101415 has rather broad tuberculate phyllodes in irregular verticels; the peduncles are long (7–9 mm); the calyx is fringed with sparse hairs shorter than those of the type of ssp. *aspera*; and the ovary is densely pubescent. NSW.79133 has smooth broad phyllodes, rather short peduncles (ca 5 mm) which are possibly not fully elongated because the flowers are immature, and glabrous calyx and ovary.

Acacia baueri ssp. *aspera* is restricted to a small area in the Blue Mountains of New South Wales where it occurs in exposed rocky situations. NSW.79133 comes from a locality intermediate between the mountain and coastal populations of *A. baueri*, but NSW.101415 is from La Perouse, well within the range of *A. baueri* ssp. *baueri* and probably not far from the collecting locality of NSW.101409, undoubtedly *A. baueri* ssp. *baueri*.

Throughout its range, some individuals of *A. baueri* ssp. *baueri* have tuberculate branches, phyllodes scattered or in oblique whorls, or phyllodes with at least a few tubercles; but only specimens of *A. baueri* ssp. *aspera* have all these characters as well as having short peduncles and rather small flowers. Such a combination of characters would warrant the recognition of the Blue Mountains taxon as a distinct species but for the occurrence of the intermediates mentioned above. The Blue Mountains populations are probably not yet completely genetically isolated, though this process may be hastened by the destruction of *A. baueri* in the vicinity of Sydney, and the rank of subspecies seems appropriate.

4. *Acacia cedroides* Benth. *Linnaea* 26 : 615 (1853), *Fl. Aust.* 2 : 341 (1864); F. Muell. *Iconogr. Aust. Acacia* Dec. 3 : t. 5 (1889). Type: Western Australia: *Drummond* 4th Coll. no. 4 (PERTH, MEL).

A shrub to 1 m tall; branchlets prominently ribbed with indumentum of rather dense erect or \pm appressed white hairs 0.2–0.4 mm long between the ribs, becoming glabrous. Phyllodes laterally compressed with a prominent raised nerve on each side and prominent marginal nerves, the lower sometimes double so that the phyllodes are either 4- or 5-gonous in section, produced into a point slightly less than 1 mm long, (8-) 13–25 (30) mm long, 0.7–1.1 mm broad, 7–13 (–16) per whorl; stipules 1.6–4 mm long. Heads with 15–25 flowers, on peduncles 7–10 mm long, glabrous or with indumentum similar to that of the branchlets; receptacle pubescent; bracteoles narrowed at the base, expanded and concave above, ca 1 mm long, 0.4 mm broad, acute or acuminate, with sparse hairs 0.2 mm long on the back. Flowers 5-merous; calyx (0.7-) 0.8–1 mm long with obtuse lobes about as long as the tube with hairs 0.2 mm long on the margins; corolla, glabrous, (1.6-) 1.7–2 mm long with acute lobes as long as the tube; stamens ca 3.5 mm long with anthers ca 0.15 mm long and wide; ovary either with long appressed hairs all over or with long hairs on the suture towards the top only. Pod \pm terete, slightly falcate, striate, with

prominent margins, not at all contracted between the seeds, glabrous or with a few appressed hairs, 40–50 mm long, 2.5–3 mm broad. Seeds longitudinal 4 mm long, ca 2 mm broad, with a small cupular aril.

WESTERN AUSTRALIA: Thumb Peak Range, Oct. 1965, *George* 7113 (PERTH); Mt. Bland, *Maxwell* (MEL); Mettlers Brook and Mt. Bland, no collector, probably *Maxwell* (MEL); 21 miles SE. of "Jerramungup", Aug. 1963, *Newbey* 826 (PERTH), Whoogarup Range, Dec. 1960, *George* 1905 (PERTH); west of Mt. Barren, Sept. 1963, *Aplin* 2765a (PERTH); West Mt. Barren, Aug. 1939, *Gardner* (PERTH), and Nov. 1960, *George* 1806 (PERTH); Whoogarup Range, Middle Mt. Barren, Nov. 1931, *Gardner* 2959 (PERTH); east of Mt. Barren, Sept. 1963, *Aplin* 2716 (PERTH); East Mt. Barren, Nov. 1931, *Blackall* 1421 (PERTH), Oct. 1961, *Willis* (MEL), Oct. 1962, *Beard* 2211 (PERTH); without definite locality, *Drummond* 4 (MEL, PERTH).

A. cedroides is restricted to a small area of Western Australia near Ravensthorpe where it usually occurs among rocks.

It is not closely related to any of the other species dealt with here. Its 4- or 5-gonous phyllodes suggest some affinity with *A. verticillata* which however has a spicate inflorescence.

K. Newbey 827 from 5 miles NW. of Mt. Maxwell–10 miles W. of West Mt. Barren, Aug. 1963 (PERTH), differs from the specimens cited above and probably represents an undescribed species, but more material is needed. It differs from *A. cedroides* mainly in the following characters: branchlets not strongly ribbed, with sparse hairs up to 0.6 mm long; phyllodes trigonous, 6–8 mm long; peduncles with a sessile, ovate, obtuse basal bract ca 0.8 mm long, 0.6 mm broad; bracteoles rather broad at the base; corolla lobes free.

5. *Acacia chippendalei* species nova affinis *A. lycopodiifoliae* A. Cunn. ex Hook. pilis ramulorum et phyllodiorum erectioribus, verticillis phyllodiis 8–11 sine longis setis, capitulis paucioribus floribus, calycibus costis minus prominentibus et lobis latioribus differt. Typus: *Chippendale* in NT.1532 (holotypus, BRI.074683).

Frutex effusus plerumque minus quam 0.5 m altus sed usque ad 3 m altus; ramuli teretes pilis albis, ± erectis, sparsis confertisve, 0.3–0.6 mm longis vestiti. Phyllodia ascendentia ± recta vel apice leviter recurvata, parum appanata, nervo supra obscuro longitudinali impresso et mucrone setaceo obliquo usque ad 0.2 mm longo praedita, 2.5–8 mm longa, pilis parce confertis, ± rectis, 0.2–0.3 mm longis vestita, in verticillos 8–11-na disposita; stipulae setaceae 0.4–1.0 (–1.4 mm) longae. Capitula (10–) 20–25-flora in pedunculis 4–13 mm longis indumento simili illi ramulorum portata; receptaculum pilis 0.3 mm longis inter flores instructum; bracteolae lanceolatae, concavae, acuminatae, 1.2–2 mm longae, glabrae vel pilis paucis longis praeditae. Flores 5-meri; calyx obconicus, longitudinaliter obscure costatus, 0.6–1.0 mm longus, lobis ovatis oblongisve, obtusis acutis vel interdum acuminatis, (0.2–) 0.3–0.4 mm longis, aliquantum latis (basi 0.3–0.4 mm) et aliquot pilis marginalibus (0.2 mm longis) instructis; corolla longitudinaliter costata, aliquantum crassa, 1.3–2.0 (–2.4) mm longa, pilis paucis longis in parte supra et lobis 0.5–0.8 mm longis praedita; pistillum glabrum. Legumen lineare, inter semina interdum parum contractum, sessile, 70 mm longum, 6–7 mm latum, valvis glabris glutinosis margine incrassato, secus medium aliquantum elevatis. Semina 3.5–4 mm longa, ca 2.5 mm lata, arillo brevi, longitudinaliter vel leviter oblique disposita.

A spreading shrub usually less than 0.5 m tall but up to 3 m; branchlets terete, covered with sparse or dense, \pm erect, white hairs 0.3–0.6 mm long. Phyllodes ascending, \pm straight or slightly recurved at the apex, slightly flattened, with an obscure longitudinal impressed nerve above and an oblique setaceous point up to 0.2 mm long, 2.5–8 mm long, clothed with moderately dense, \pm straight hairs 0.2–0.3 mm long, arranged in whorls of 8–11; stipules setaceous 0.4–1 (–1.4) mm long. Heads (10–) 20–25-flowered borne on peduncles 4–13 mm long with indumentum similar to that of the branchlets; receptacle with hairs 0.3 mm long between the flowers; bracteoles lanceolate, concave, acuminate, 1.2–2 mm long, glabrous or with few long hairs. Flowers 5-merous; calyx obconical, obscurely longitudinally nerved, 0.6–1 mm long, with ovate or oblong, obtuse, acute or sometimes acuminate lobes, (0.2–) 0.3–0.4 mm long, rather broad (at the base 0.3–0.4 mm) and with a few marginal hairs (0.2 mm long); corolla longitudinally ribbed, rather thick, 1.3–2 (–2.4) mm long, with few long hairs in the upper part and with lobes 0.5–0.8 mm long. Pods linear, sessile, sometimes a little contracted between the seeds, 70 mm long, 6–7 mm broad, with glabrous, glutinous valves somewhat thickened at the margin, rather convex along the middle. Seeds 3.5–4 mm long, ca 2.5 mm wide, with a small aril, arranged longitudinally or slightly obliquely.

WESTERN AUSTRALIA: Sir Frederick Range, \pm 128° 40' E. 24° 05' S, Aug. 1962, *Symon* 2234 (CANB), and Oct. 1966, *George* 8318 (PERTH).

NORTHERN TERRITORY: Tallaputta Gorge area, July 1957, *Chippendale* in NT.3564 (NT, PERTH); near Alambaura Spring, Haast Bluff, Aug. 1956, *Chippendale* in NT.2577 (NT); 8 miles N. of Haast Bluff Mission, June 1957, *Forde* 848 (NT); 10 miles S. of Elliott, Nov. 1968, *Byrnes* NB.1171 (NT, BRI); 17 miles W. of "Rockhampton Downs" T.O., Aug. 1955, *Chippendale* in NT.1532 (NT, BRI, CANB, PERTH); 35 miles E. of Flynn's Memorial, July 1958, *Trapnell* 140 (BRI); 100 miles E. of Stuart Highway on Barkly Highway, July 1967, *Carruthers* (BRI); 18 miles W. of "Soudan", Mar. 1963, *Swinbourne* 751 in NT.10662; ca 3 miles W. of Barrys Caves, July 1970, *Carolin* 7330 (NSW); James River, Upper Georgina River and sources of the Georgina River, in 1886, *Dittrich* (MEL).

QUEENSLAND: Burke District: 17 miles from Mt. Isa on Camooweal road, May 1963, *Gittins* 753 (BRI, MEL); Fifteen Mile Range, near Cloncurry, *Pearson* (BRI).

Acacia chippendalei occurs in the Cloncurry–Mt. Isa area of Queensland and in adjacent parts of the Northern Territory and in the Macdonnell and Sir Frederick Ranges. Like *A. adoxa* it is found on both shallow stony soils and on deep sand, often of lateritic origin.

Sterile specimens of *A. chippendalei* often cannot be distinguished with certainty from *A. adoxa*, but the arrangement of the seeds, and the ribbing and lobing of the calyx differentiate the two. *A. chippendalei* has been confused with *A. lycopodiifolia* but it lacks prominent setae and the structure of the calyx is different.

Specimens from the Macdonnell and Sir Frederick Ranges have usually longer and stouter phyllodes, and somewhat larger flowers with more deeply lobed calyces than the others.

6. *Acacia galioides* Benth. Hook. Lond. J. Bot. 1 : 344 (1842), Fl. Aust. 2 : 342 (1864); F. Muell. Iconogr. Aust. Acacia Dec. 3: t. 2 (1889). Type: Australia, *Bauer* (not seen).

A spreading shrub less than 0.5 m tall; branchlets glabrous, occasionally glaucous or with an indumentum of hairs usually 0.1 mm long rarely up to 0.3 mm long, usually most dense immediately below the whorls of phyllodes. Phyllodes straight or slightly recurved at the apex, slightly flattened with an impressed nerve on the upper surface, obscurely longitudinally ribbed beneath, abruptly contracted into a short apical point up to 0.2 mm long, 2–8 mm long (up to 14 mm on young sterile vigorous shoots, but these seldom collected), (5–) 6–9 per whorl; stipules linear, acute, scarious, (0.5–) 0.8–3 (–3.8) mm long. Heads 10–20 (–25)-flowered on peduncles 4–15 mm long, glabrous or with an indumentum similar to that of the branchlets; receptacle with a few long hairs; bracteoles somewhat concave, narrow-ovate or lanceolate, acuminate, striate, 0.8–1.6 mm long with a few long hairs on the margin. Flowers striate 5–6-merous; calyx thick, striate, 0.6–1.4 mm long with broadly triangular lobes 0.2–0.3 mm long; corolla 1.5–2.6 mm long with rather thick incurved lobes (0.4–) 0.7–0.8 (–1) mm long; stamens ca 4 mm long; ovary glabrous. Pods somewhat viscid, glabrous, linear, the valves raised over the seeds with nerve-like margins up to 50 mm long, (4–) 5–6 mm broad, on stipes 7–10 mm long; seeds longitudinal, 3.5–5 mm long, ca 3 mm broad with a small cupular aril.

6a. *A. galioides* var. *galioides*.

Branchlets with an indumentum of moderately dense to dense hairs. Phyllodes with a covering of short (less than 0.1 mm long) hairs. Calyx 0.7–0.8 mm long, ± hispid or with hairs confined to the margins. Corolla (1.5–) 2.0–2.2 mm with hispid to almost glabrous lobes.

WESTERN AUSTRALIA: Pantons River, Kimberley District, in 1888, *Giles* (MEL).

NORTHERN TERRITORY: Pinkerton Ra., May 1968, *Byrnes* NB753 (NT, BRI); Victoria River, *Mueller* (MEL); 26 miles SW. of "Willeroo", May 1960, *Chippendale* in NT.6853 (NT, BRI); 15 miles S. of "Wavehill", June 1949, *Perry & Lazarides* 2232 (CANB, BRI, MEL); 27 miles SSW of "Delamere", May 1952, *Perry & Lazarides* 2853 (CANB, BRI, MEL, NT); Newcastle Waters, Sept. 1947, *Perry* 353 (CANB); Three Nobs, 16° 31' S., 135° 30' E., May 1947, *Blake* 17756 (BRI, CANB, MEL); 16 miles NE of "Alexandria", June 1948, *Perry* 1494 (CANB, BRI, NSW); Golden Creek, Queensland–Northern Territory Border, Sept. 1923, *Brass* 354 (BRI, CANB).

QUEENSLAND: Burke District: "Corinda", levee of Nicholson River, June 1948, *Perry* 1372 (CANB); 9 miles E. of Riversleigh, June 1948, *Perry* 1445 (CANB, MEL); "Thorntonia", 75 miles NE. of Camooweal, May 1966, *Pedley* 2036 (BRI); Sweets I., *Henne* (MEL), June 1901, *J. F. Bailey* (BRI); 5 miles ESE. of "Coolulah", Aug. 1953, *Lazarides* 3989 (BRI, CANB); Croydon, Aug. 1913, *Cabbage* (NSW). North Kennedy District: 6 miles SW. of Pentland, June 1953, *Lazarides* 3575 (CANB, BRI, MEL); Warrigal, Feb. 1931, *Hubbard & Winders* 7098 (BRI). South Kennedy District: "Disney" 90 miles NNW. of Clermont, July 1964, *Pedley* 1723 (CANB, BRI); 4 miles NE. of "New Twin Hills", Aug. 1964, *Pedley* 1737 (CANB, BRI); Upper Belyando, in 1883, *Emmerson* (MEL). Mitchell District: Aramac, *Birch* (BRI). Without definite locality: in 1883, *Palmer* 119 (MEL); *Brown* (BRI, MEL).

6b. *A. galioides* var. *glabriflora* (Domin) comb. et stat. nov.

A. glabriflora Domin, Bibl. Bot. 89 : 251 (1926). Holotype: Mt. Remarkable apud opp. Pentland, March 1910, *Domin* (PR.527714).

Differs from *A. galioides* var. *galioides* in having glabrous phyllodes, and somewhat more glabrous and sometimes larger flowers. Branchlets with an indumentum of sparse to dense hairs. Phyllodes glabrous or rarely with a few long white hairs. Calyx (0.6-) 0.8-1.4 mm long, with a few hairs on the margins. Corolla 1.8-2.2 (-2.4) mm long with a few hairs on the margins of the lobes.

WESTERN AUSTRALIA: near the Ord River, in 1886, *O'Donnell* (MEL).

NORTHERN TERRITORY: Victoria River, May 1968, *Byrnes* NB.731 (NT, BRI).

QUEENSLAND: Burke District: 11 miles SE. of "Westmoreland", June 1948, *Perry* 1356 (CANB, BRI, MEL); Sweets I., in 1904, ex *F. M. Bailey* (NSW.102334); 200 miles W. of Hughenden near Cloncurry, Aug. 1889, *Chisholm* (MEL); "Coalbrook Plains", in 1894, *Chisholm* (MEL); 8 miles NNW. of "Coalbrook" *Lazarides* 4506 (CANB, MEL). Cook District: Upper Gilbert River, in 1894, *Johnson* (MEL); Tate River, in 1892, *Birch* (MEL); Stannary Hills, *Bancroft* (NSW), Apr. 1962, *McKee* 9431 (CANB, BRI, MEL). North Kennedy District: near Herberton, June 1899, *Dixon* NSW.102332 (NSW); without definite locality, *Daintree* (MEL). South Kennedy District: 146° 15' E. 21° 34' S., "Yarrowmere", Apr. 1969, *Walker* (BRI). Mitchell District: sources of the Thomson River, in 1871, *Birch* (MEL). Without definite locality, *Leichhardt* (MEL).

6c. *A. galioides* var. *leioclada* (Domin) comb. et stat. nov.

A. leioclada Domin, Bibl. Bot. 89 : 251 (1926). Holotype: Queensland: in collibus apud fl. Walsh River situ septentr. ab opp. Chillagoe, Feb. 1910, *Domin* (PR.527716).

Differs from *A. galioides* var. *galioides* in being glabrous and having somewhat larger flowers. Plant (including floral parts) glabrous. Calyx 0.7-1.1 mm long; corolla 2-2.6 mm long.

QUEENSLAND: Cook District: Walsh River near Chillagoe, Feb. 1910, *Domin* (PR); Sandy Tate River, Feb. 1928, *Brass* 1744 (BRI, CANB); Newcastle Range, *Armit* 411 (MEL). North Kennedy District: Mt. Garnet, Oct. 1944, *McKellar* (BRI); 100-mile swamp at headwaters of the Burdekin River, Mar. 1875, *Armit* 128 (MEL). Leichhardt District: range near Percy Douglas Creek [approx. 22° 55' S. 147° 25' E.], *Bowman* (MEL).

Acacia galioides occurs on sandy and shallow rocky soils and ranges from the eastern highlands of Queensland, from about Clermont to Herberton, through north-western Queensland and the central part of the Northern Territory to the eastern part of the Kimberley region of Western Australia. *A. galioides* var. *galioides* and *A. galioides* var. *glabriflora* occur throughout the range, but the latter is probably more common in the eastern part. *A. galioides* var. *leioclada*, on the other hand, is found only in the east. The varieties are not ecologically differentiated to any great extent and one specimen (*Perry* 1356), a mixture of *A. galioides* var. *galioides* and *A. galioides* var. *glabriflora* indicates that more than one variety may occur in a single community.

The indumentum of short hairs (when present) and stipitate pod distinguish the species from all others of the group, and it is difficult to specify its nearest relative, though one specimen suggests a relationship with *A. perryi* (q.v.). Within the species there are gradations in such characters as degree of pubescence and size of flowers but there are no discontinuities sharp enough to admit of recognition of taxa above varietal rank. Despite this, *A. galioides* var. *leioclada* is quite a striking plant probably because of its lack of indumentum, and Mueller drew up a manuscript description of it (based on *Armit* 411), under a name that was not published.

7. *Acacia hippuroides* Heward ex Benth. Hook. Lond. J. Bot. 1 : 344 (1842), Fl. Aust. 2 : 342 (1864). Type: Western Australia: Usborne's Harbour near entrance to King Sound, *Wickham* (not seen).

A shrub with terete branchlets with a rather dense covering of yellow hairs ca 0.5 mm long. Phyllodes ascending, slightly incurved (somewhat flexuose on some specimens), rather slender, slightly flattened and sulcate on the upper surface, contracted into a short point, with a moderately dense indumentum of slightly curved hairs ca 0.4 mm long, 12–20 mm long, in regular whorls of 12–15; stipules ca 1 mm long. Peduncles axillary, 20–30 mm long, longer than the phyllodes, bearing heads of 30–40 flowers, the receptacle pilose; bracteoles glabrous, linear-oblongate, ca 1 mm long. Flowers not striate, 5-merous; calyx 0.4–0.6 mm long, irregularly lobed for $\frac{1}{4}$ – $\frac{3}{4}$ of its length or rarely entirely to the base, glabrous but for some long hairs at the base; corolla 2.0–2.8 mm long with rather thick incurved lobes ca 0.8 mm long with a few (0.5 mm long) hairs near the top; stamens ca 4 mm long; ovary glabrous or pubescent. Pods linear, \pm flat, 25 mm long, 10 mm broad, raised above the seeds, glabrous or with an indumentum of (0.8 mm long) dirty yellow hairs; seeds transverse, ca 4 mm long, 2.5 mm broad.

WESTERN AUSTRALIA: East Kimberley, Aug. 1936, *Barnett* (PERTH); about 20 miles WSW. of Beagle Bay, *Lazarides* 6558 (CANB, PERTH); 8 miles S. of James Price Pt., July 1970, *Carolin* 7503 (NSW); near King Sound 17° 39' S. 122° 44' E., *Forrest* (MEL); "Thangoo", May 1965, *Beard* 4078 (PERTH); near Lagrange Bay 18° 30' S. 121° 57' E., *A. Forrest* (MEL).

Acacia hippuroides occurs in pindan (thicket) on deep red sand and is restricted to a small area near King Sound, Western Australia.

As Bentham noted in the original description this is an elegant species with a very distinctive appearance, mainly because of its slender branchlets and phyllodes and its long yellow hairs. It has however been the source of some confusion. Bentham originally cited one specimen, but in 1864 widened the application of the name considerably with the addition of a specimen of Stuart from Attack Creek. This specimen, in fact, represents a distinct species, *A. perryi*, to which Bentham's description in *Flora Australiensis* largely applies.

Possibly because part of Stuart's collection was available for examination at Melbourne the name *A. hippuroides* has been generally applied to the discordant

element added by Bentham and *A. hippuroides* itself has been overlooked. Specimens of Forrest's were identified by Mueller as "*A. hippuroides* var.", and early in this study I had drawn up a description of it believing it to be undescribed species. Its smooth corolla suggests relationships with *A. spondylophylla* and *A. longipedunculata* but its range, peculiar indumentum, and extremely short calyx relative to the corolla set it apart from these species as well.

8. *Acacia longipedunculata* species nova affinis *A. spondylophyllae* F. Muell. et *A. hippuroidi* Heward ex Benth. ab illa phyllodiis 15–27-nis longioribus et seminibus longitudinalibus, ab hac pilis non flavidis, floribus minoribus autem calyce longiore, et leguminibus angustioribus differt. Typus: *Gittins* 518 (holotypus, BRI.049238).

Frutex parvus; ramuli aliquantum resinosi pilis sparsis albis ca 1 mm longis vestiti. Phyllodia \pm teretia, basi decrescentia et apice in mucronem ca 1–1.5 mm longum abrupte contracta, e basi leviter incurvata, 10–25 mm longa, in verticillos 15–27-na disposita; stipulae brunneae setaceae 1–2 mm longae. Capitula parum elongata 25–40-flora in pedunculis resinosis 15–45 mm longis quam phyllodiis plerumque longioribus portata; bracteolae ca 2 mm longae. Flores 5-meri; calyx 1.2 mm longus lobis acutis vel acuminatis 0.4–0.6 mm longis, pilis paucis longis dorsalibus praeditis; corolla 2–2.5 mm longa lobis 0.8–1 mm longis aliquot pilis sparsissimis longis dorsalibus; stamina ca 4 mm longa; pistillum glabrum. Legumen lineare haud stipitatum, glabrum, usque ad 40 mm longum, 6–8 mm latum, secus medium aliquantum elevatum. Semina depresso globulosa, 4 mm longa, 3–4 lata, arillo parvo unilaterali, longitudinaliter disposita.

A small shrub; branchlets terete somewhat resinous covered with sparse white hairs ca 1 mm long. Phyllodes \pm terete tapered at the base and abruptly contracted at the apex into a mucro ca 1–1.5 mm long, gently incurved from the base, 10–25 mm long, 15–27 per whorl; stipules brown, setaceous, 1–2 mm long. Heads 25–40-flowered slightly elongated, borne on resinous peduncles 15–45 mm long usually much longer than the phyllodes; bracteoles ca 2 mm long. Flowers 5-merous; calyx 1.2 mm long with acute or acuminate lobes 0.4–0.6 mm long with a few long hairs on the back; corolla 2–2.5 mm long with lobes 0.8–1 mm long with a few extremely sparse long hairs on the back; stamens ca 4 mm long, pistil glabrous. Pod linear, not stipitate, glabrous, up to 40 mm long, 6–8 mm broad, slightly raised along the middle. Seeds longitudinal, depressed globular, 4 mm long, 3–4 mm broad, with an aril on one side at the base.

QUEENSLAND: Cook District: Irvinebank, *Bennett* (BRI); Stannary Hills, June 1962, *Gittins* 518 (BRI). North Kennedy District: Herberton, June 1906, *Ringrose* (BRI); Paluma Range on Ewan road, March 1968, *Wyatt* 18 (BRI).

Acacia longipedunculata is restricted to shallow sandy soils in north-eastern Queensland, a region of high endemism in *Acacia*. It is such a distinctive species with long phyllodes and peduncles that I find it difficult to relate to other species. Maiden (Proc. Roy. Soc. Qd 30 : 25 (1918)) determined the specimens of *Bennett* and *Ringrose* as *A. hippuroides*, a species with yellow hairs, shorter peduncles and much smaller calyxes.

Two specimens, glabrous with phyllodes in whorls of 12–15, both from Stannary Hills (Aug. 1908, *Bancroft* 193, and May 1962, *Gittins* 512) are, in the absence of flowers, placed here with some doubt.

9. *Acacia lycopodiifolia* A. Cunn. ex Hook. Icon. Pl. t. 172 (1837); Benth. Fl. Aust. 2 : 342 (1864). Type: Cambridge Gulf, *A. Cunningham* (not seen).

A. lycopodiifolia var. *setifera* Domin, Bibl. Bot. 89 : 80 (1926). Type: Upper Victoria River, Dec. 1855, *Mueller* (MEL, isotype).

A spreading shrub up to about 1 m tall; branchlets with an indumentum of moderately dense to dense (sparse in specimens from Katherine Gorge), \pm erect, white hairs 0.3–0.4 (–0.6) mm long. Phyllodes in regular whorls of 10–14 (–16) ascending, straight or recurved, slightly flattened with an obscure impressed nerve on the upper surface, abruptly contracted in a setaceous sometimes glutinous point (0.2–) 0.4–1.6 (–4) mm long, up to $\frac{3}{4}$ the length of the whole phyllode, with \pm erect hairs 0.2–0.3 mm long, 1.5–5 (–8) mm long; stipules linear, 0.6–1.2 (–2.2) mm long. Phyllodes on seedlings are usually longer with less conspicuous setae than those on flowering plants. Heads (20–) 30–40-flowered on peduncles as long as or many times longer than the phyllodes; receptacle with some long hairs between the flowers; bracteoles narrowly lanceolate acuminate, glabrous or hirsute at the end, 1.5–2.5 (–3.2) mm long, as long as or longer than the buds. Flowers striate, 5–6-merous; calyx ribbed, (0.5–) 0.6–0.8 (–0.9) mm long, with thick linear, slightly incurved lobes 0.3–0.4 mm long, the whole glabrous, sparsely hairy, or occasionally the lobes fringed with hairs; corolla striate, rather thick, 1.8–2.4 mm long with incurved lobes 0.6–0.8 mm long, hispid towards the top with hairs up to 0.5 mm long; stamens ca 4.0 mm long; ovary glabrous or occasionally pubescent. Pods sessile, glabrous or occasionally sparsely or densely pubescent, up to 55 mm long, 4–6 mm broad, raised along the middle with slightly thickened margins, sometimes constricted between seeds; seeds longitudinal, 4–6 mm long, ca 3.0–3.5 mm broad with a small basal aril.

WESTERN AUSTRALIA: Isdell River, May 1905, *Fitzgerald* NSW.102351 (NSW); Mt. Eliza, May 1905, *Fitzgerald* 709 (NSW); Inglis Gap, King Leopold Range, May 1905, *Fitzgerald* 708 (NSW); Woodhouse River, in 1891, *Bradshaw & Allen* (MEL); New York Pool, 27 miles NE. of "Karunjie", Aug. 1954, *Speck* 4810 (CANB); 28 miles NE. of "Springvale", Apr. 1955, *Lazarides* 5068 (CANB, BRI, MEL, NSW, NT, PERTH); Ord River "Bedford Downs", July 1967, *Gittins* 1417 (NSW, BRI); Mt. Barrett, May 1951, *Gardner* 10143 (PERTH); Halls Creek, in 1895, *Mansbridge* (MEL); west of Cambridge Gulf, in 1887, *Keiler* (MEL); Cambridge Gulf, in 1887, *O'Donnell* (MEL); Pentecost River, in 1891, *Bradshaw & Allen* (MEL); "Denham River", July 1949, *Perry & Lazarides* 2521 & 2535 (CANB, BRI, MEL, NSW, NT, PERTH); Dillon Springs, 46 miles SE of Wyndham, Aug. 1952, *Perry & Lazarides* 3170 (CANB, BRI, MEL, NSW, NT, PERTH); The Grotto, Deception Ranges near Kimberley Research Station, July 1952, *Perry & Lazarides* 3074 (CANB, BRI, MEL, NSW, NT, PERTH); Deception Range, Feb. 1950, *Langfield* 161 (CANB); 4 miles NE of Wyndham Pumping Stn, May 1967, *Maconochie* 131 (NT, BRI); Ord River, in 1886, O'Donnell, and in 1888, *Nynlacy* (MEL); Point Springs, 29 miles E. of "Carlton", July 1949, *Perry & Lazarides* 2652 (CANB, BRI, MEL, NSW, NT, PERTH). Without definite locality: Kimberley District, in 1888, *Nynlacy* (MEL).

NORTHERN TERRITORY: Pinkerton Range, May 1968, *Byrnes* NB752 (NT, BRI); mouth of Victoria River, in 1897, *N. Holtze* 1395 (MEL); lower part of Victoria River, Aug. 1913, *Winters* NSW.102340 (NSW); Jasper Gorge, May 1968, *Byrnes* 769 (NT, BRI); 40 miles SE. of Timber Creek Police Station, June 1952, *Perry & Lazarides* 2875 (CANB, BRI, MEL, NSW, NT, PERTH); Kidman Creek area, May 1963, *Walter* NT.10469 (NT); Upper Victoria River, Dec. 1855, *Mueller* (MEL); Victoria River, in 1867, *Cadell*, and in 1896, *N. Holtze* 1396 (MEL); 16 miles WSW of "Victoria River Downs", June 1949, *Perry & Lazarides* 2100 (CANB, BRI, MEL, NT, PERTH); Buchanan Highway 16 miles SW. of "Wave Hill", July 1970, *Carolin* 7360 (NSW); 18 miles NE. of Katherine, Feb. 1965, *Wilson* 310 (CANB, NT); Katherine Gorge, 20 miles NE of Katherine, Mar. 1964, *Adams* 897 (CANB, MEL, NSW, NT), Jan. 1967, *Byrnes* NB83 (NT), April 1968, *Byrnes* NB614 (NT), and Aug. 1968, *Coveny* 507 (NSW).

Acacia lycopodiifolia occurs on shallow stony soil in the eastern part of the Kimberley region and adjacent parts of the Northern Territory with a gap of about 150 miles from the Victoria River area to its eastern extremity at the Katherine Gorge. One specimen on a sheet with a fragment of *A. adoxa* labelled Port Darwin, *A. Forrest* (MEL) is outside the range of both species or any other of the group and is considered to be a doubtful locality record.

Though other species, notably *A. adoxa*, have been confused with it, *A. lycopodiifolia* is a well defined species characterized by longitudinal seeds and short phyllodes with long setae. The length of the setae is variable, but, except on some specimens of young sterile plants and on *Gittins* 1442, they are always conspicuous. *Gittins* 1442 represents an aberrant individual. Its phyllodes have setae about 0.2 mm long, but its stipules are up to 4 mm long, almost as long as the phyllodes. In indumentum and floral structure the specimen agrees with other material of *A. lycopodiifolia* and that is where it belongs. The density of indumentum of the species also varies somewhat and specimens from the Katherine Gorge have somewhat sparser indumentum and shorter setae than other specimens. The recognition of *A. lycopodiifolia* var. *setifera* is not justified as its type is well within the range of variation of the species.

10. *Acacia orthotricha* species nova affinis *A. chippendalei* Pedley capitulis plures flores ferentibus, calycibus longioribus et seminibus transversis differt. Typus: *Perry & Lazarides* 2929 (holotypus, BRI.015784).

Frutex minus quam 1 m altus; ramuli teretes, pilis parce confertis, \pm erectis, 0.4–0.6 mm longis vestiti. Phyllodia leviter incurvata, apice recurvata, parum applanata, supra profunde sulcata, mucrone obliqui brevi praedita, pilis parce confertis, \pm erectis, 0.4–0.6 mm longis vestita, 4.0–7.5 mm longa, in verticillos 7–11-na disposita; stipulae 0.7–1.5 mm longae. Capitula 25–35-flora in pedunculis 5–10 mm longis indumento simili illi ramulorum portata; receptaculum pilosum; bracteolae oblongae, concavae, acutae, 1.6–2 mm longae, pilis paucis longis. Flores 5-meri; calyx subtiliter autem perspicue costatus, 0.9–1.6 mm longus, lobis late triangulis, obtusis acuminatis vel laciniatis, 0.2–0.4 mm longis, basi 0.3–0.4 mm latis aliquot pilos longos marginales ferentibus instructus; corolla longitudinaliter costata, 1.8–2.6 mm longa, pilis paucis longis in parte superiore et lobis 0.8–1.1 mm longis praedita; pistillum glabrum. Legumen lineare, glabrum, ad 60 mm longum, 6–9 mm latum. Semina transversa vel leviter obliqua, sed matura non visa.

A shrub less than 1 m tall; branchlets terete clothed with moderately dense \pm erect hairs 0.4–0.6 mm long. Phyllodes slightly incurved, recurved at the apex, slightly flattened and deeply sulcate above, with a short oblique point, covered with moderately dense \pm erect hairs 0.4–0.6 mm long, 4.0–7.5 mm long, arranged in whorls of 7–11; stipules 0.7–1.5 mm long. Heads of 25–35 flowers borne on peduncles with an indumentum similar to that of the branches, 5–10 mm long; receptacle hairy; bracteoles oblong, concave, acute, 1.6–2 mm long, with a few hairs. Flowers 5-merous; calyx finely but distinctly ribbed, 0.9–1.6 mm long with broadly triangular, obtuse, acuminate or lacinate lobes 0.2–0.4 mm long, 0.3–0.4 mm broad at the base with some long hairs on the margin; corolla striate with some long hairs in the upper part, 1.8–2.6 mm long with lobes 0.8–1.1 mm long; pistil glabrous. Pods linear, glabrous, to 60 mm long, 6–9 mm broad. Seeds transverse or slightly oblique.

WESTERN AUSTRALIA: Kununurra, June 1966, *Douglas* (PERTH).

NORTHERN TERRITORY: 20 miles W. of "Inverway", June 1952, *Perry & Lazarides* 2929 (BRI, CANB, NT, PERTH); 20.8 miles W. of "Inverway", May 1959, *Chippendale* in NT.5943 (NT, BRI).

A. orthotricha is a very distinct species but the paucity of the material prevents the range of its variability being assessed. It has similar indumentum and calyx to *A. chippendalei* but has markedly larger flowers and heads, and transverse seeds. The arrangement of the seeds suggests some affinity with *A. adoxa* which however has shorter hairs on the branchlets and phyllodes and calyxes with linear, not broadly triangular lobes.

11. *Acacia perryi* species nova affinis *A. lycopodiifoliae* A. Cunn. ex Benth. phyllodiis longioribus latioribus sine setis, stipulis longioribus et calyce longiore differt. Typus: *Blake* 16015 (holotypus, BRI.113091).

Frutex ad 1.5 m altus; ramuli leviter costati, resinosi, pilis mollibus albis erectis vel leviter resupinis saepe demum quoquoersus crispis; internodia plerumque breviora quam phyllodia. Phyllodia recta vel aliquantum in dimidio inferiore incurvata et apice recurvata, applanata (ad 0.5 mm lata), nervo supra impresso, in sicco indistincte longitudinaliter costata, (6–) 8–15 (–18) mm longa, pilis parce confertis, erectis vel antrorse curvatis usque ad 0.5 mm longis vestita, in mucronem 0.4–1.2 mm longum producta, in verticillos 10–15-na disposita; stipulae lineares, acutae, 2–3 mm longae, plerumque glabrae sed aliquando prope basem caespite pilorum longorum praeditae. Capitula 20–35-flora in pedunculis 5–20 mm longis, indumento sparso simili illi ramulorum instructis; receptaculum glabrum; bracteolae anguste oblongae, acutae, 2–3 mm longae, longiores quam alabastra. Flores 5–6-meri; calyx anguste obconicus, 0.9–1.5 mm longus, glaber vel aliquot pilis marginalibus praeditus, costis longitudinalibus prominentibus, quibusdam quarum in lobos plerumque 5–6 sed usque ad 10 crassos lineares incurvatos 0.3–0.5 mm longos productis; corolla 2–2.4 (–3) mm longa lobis crassis incurvatis 0.8–1 mm longis et pilis 0.5 mm longis in parte superiore praedita; stamina usque ad 5 mm longa; pistillum glabrum. Legumen glabrum, sessile secus medium aliquantum elevatum, margine incrassato, 35–45 mm longum, 5–6 mm latum. Semina longitudinaliter disposita.

A shrub to 1.5 m tall; branchlets slightly ribbed, resinous, covered with erect or somewhat retrorse soft white hairs (0.4–0.6 mm long), often at last curled in all directions; internodes usually shorter than the phyllodes. Phyllodes straight or

somewhat incurved in the lower half and recurved at the apex, flattened (up to 0.5 mm broad) with an impressed nerve above, obscurely longitudinally ribbed when dry (6-) 8-15 (-18) mm long, covered with moderately dense erect or antrorsely curved hairs up to 0.5 mm long, produced into a point 0.4-1.2 mm long, in whorls of 10-15; stipules linear acute 2-3 mm long, usually glabrous, but occasionally with a tuft of long hairs near the base. Heads of 20-35-flowers borne on peduncles 5-20 mm long, with a sparse indumentum similar to that of the branchlets; receptacle glabrous; bracteoles 2-3 mm long, narrow-oblong, acute, longer than the buds. Flowers 5-6-merous; calyx narrowly obconic 0.9-1.5 mm long with prominent longitudinal ribs some of which are produced into thick, linear, incurved lobes 0.3-0.5 mm long, the number of lobes usually 5-6 but up to 10, glabrous or with some hairs on the margins; corolla 2-2.4 (-3) mm long with thick incurved lobes 0.8-1 mm long and with long hairs (0.5 mm) in the upper half; stamens up to ca 5 mm long; pistil glabrous. Pods glabrous, sessile, slightly raised along the middle, with slightly thickened margins, 35-45 mm long, 5-6 mm broad. Seeds longitudinal.

WESTERN AUSTRALIA: 18 miles E. of Kununurra, July 1967, *Olsen* 491 (NSW); Halls Creek, July 1949, *Perry* 2499 (CANB, PERTH); between "Gordon Downs" and "Pargee", July 1928, *Officer* (MEL).

NORTHERN TERRITORY: "Hodgson Downs" ca 15° 11' S. 134° 04' E., Apr. 1947, *Blake* 17540 (BRI, CANB, MEL); between Darwin and Larrima, Sept. 1942, *Fuau* (MEL); S. of Elliott, Sept. 1947, *Perry* 248 (CANB); from "Eva Downs" to Ashburton Ra., Sept. 1886, *Dittrich* (MEL); Powells Creek, in 1894, *Holtze* (MEL), Aug. 1922, *Allen* 669 (NSW), and Feb. 1968, *Byrnes* NB861 (NT, BRI); Helen Springs, June 1947, *Perry* 140 (CANB); near Banka Banka, 18° 52' S. 134° 03' E., June 1946, *Blake* 16015 (BRI); Churchill's Head, 4 miles S. of Morphett Creek, Mar. 1955, *Chippendale* in NT.990 (NT, CANB); 48 miles N. of Tennant Creek, Apr. 1948, *Perry* 598 (CANB, BRI, NT); 5 miles N. of Attack Creek, Nov. 1968, *Byrnes* NB1166 (BRI, NT); Attack Creek, *Stuart* (MEL); centre of Australia, *Stuart* (MEL); stony range 19° 07' S, Sept. 1936, *Stokes* (PERTH); 34 miles N. of Tennant Creek, Nov. 1968, *Byrnes* NB1162 (BRI, NT). Northern Territory, Apr. 1948, *Miles* (CANB, PERTH).

Acacia perryi occurs usually on stony soil in the north central part of the Northern Territory and in the eastern part of the Kimberley region of Western Australia. The disjunction of about 300 miles in its range is probably due to a lack of collections rather than to a lack of suitable habitats.

It is a distinctive species with broad phyllodes and long stipules and bracteoles. Its nearest relative is *A. asperulacea*, but since Bentham (1864) referred a specimen (Attack Creek, *Stuart*) to *A. hippuroides* it has been generally confused with that species. *A. hippuroides* has long yellow hairs and corollas without striations and is not closely related.

One specimen (*R. A. Perry* 2499) is tentatively referred to *A. perryi*. It has shorter hairs (ca 0.2 mm long on the branchlets) and fewer phyllodes per whorl (8-10). These characters suggest some affinity with *A. galioides*, but as the flowers agree so well with those of *A. perryi*, and as there are no pods it is expedient to leave it here. Its general appearance suggests that it may be a hybrid between *A. galioides* and *A. perryi*.

12. *Acacia spondylophylla* F. Muell. Fragm. Phytogr. Aust. 8 : 243 (1874), Icon. Aust. Sp. Acacia Dec. 3 : 7 (1889). Lectotype: Central Australia, without definite locality, *J. McD. Stuart* (MEL).

A spreading shrub up to about 2 m tall with smooth, grey bark; branchlets resinous with an indumentum of moderately dense stiff white hairs 0.4 mm long, with internodes usually shorter than the phyllodes. Phyllodes straight or somewhat recurved towards the apex, slightly flattened with an obscure impressed nerve on the upper surface, obscurely longitudinally ribbed when dry, with a short apical mucro, (5-) 6-10 mm long, less than 1 mm broad, 8-12 (-14) per whorl; stipules brown, resinous, uninerved, 1-2 mm broad, up to 0.5 mm broad. Heads 25-40-flowered on resinous sparsely pilose peduncles 10-25 mm long; bracteoles oblong to ovate, acute or acuminate, 1-2 mm long, 3-4 times as long as broad. Flowers 5-merous; calyx glabrous, membranous, 0.8-1.2 mm long (with acute or obtuse lobes (0.4-) 0.5-0.7 (-0.9) mm long; corolla (1.6-) 1.8-2.2 (-2.3) mm long with lobes (0.4-) 0.6-1 mm long, glabrous or sometimes with a few hairs on the back of the lobes, not striate but the lobes uninerved; stamens ca 3.5 mm long; ovary glabrous. Pods resinous flat, the valves rather papery with nerve-like margins, concave over the seeds, 40 mm long, 6-8 mm broad. Seeds transverse, 3.5-4 mm long, 2-3 mm broad with a terminal cupular aril.

WESTERN AUSTRALIA: Hamersley Range Pass, Aug. 1932, *Gardner* 3123 (PERTH); Hamersley Range, 20° 40' S. 117° 43' E. Aug. 1963, *Cole* WA5095 (PERTH); Wittenoom Gorge, in 1952, *McMahon* (NSW); Sept. 1957, *Stewart* (PERTH); July 1958, *McMillan* (PERTH); between Barrow and Rawlinson Ranges, in 1873-4, *Giles* (MEL); E. end of Rawlinson Ra., June 1958, *Cleland* (PERTH); *Giles*, 580 km WSW. of Alice Springs, July 1958, *Hill & Lothian* 841 (PERTH, NT).

NORTHERN TERRITORY: Mt. Liebig, Aug. 1932, *Cleland* (NSW); July 1957, *Chippendale* in NT. 3544 (NT), July 1966, *Willis* (MEL); Western Australian Expedition, camps 14 to 21, in 1872, *Giles* (MEL); 20 miles E. of "Mt. Wedge", July 1954, *Winkworth* 371 (CANB, NT); "Central Mt. Wedge", Nov. 1955, *Chippendale* in NT.1839 (NT, BRI, CANB, NSW); Haast Bluff, May 1911, *Hill* 178 (MEL); 10 miles W. of Haast Bluff, June 1956, *Forde* 838 (CANB, NT); Mt. Sonder, in 1886, *Schwarz* (MEL); Ormiston Gorge, about 75 miles W. of Alice Springs, July 1966, *Willis & Morrison* (MEL), July 1967, *Beaglehole* 24180 (NT); Hermannsburg Mission, Mar. 1957, *Forde* 739 (NT, BRI, CANB); Finke R., *Kempe* 549 (MEL); Annabelle Gorge, between Ellery Creek, Finke River and Glen of Palms, July 1967, *Beaglehole* 24087 (NT); Glen of Palms, in 1872, *Giles* (MEL); Glen of Palms, July 1967, *Beaglehole* 23875 (NT); Palm Valley, Oct. 1952, *Learmouth* (MEL); "Tempe Downs", in 1888, *Thornton* (MEL); Valley of the Eagles, ENE. of Alice Springs, July 1967, *Beaglehole* 24361; 13 miles SSE. of Aileron, Nov. 1955, *Forde* 5 (NT, BRI, CANB, NSW); 14 miles SE. of Aileron, Aug. 1956, *Lazarides* 5779 (CANB, BRI, MEL, NT); "Napperby" about 100 miles NW. of Alice Springs, Jan. 1950, *Everist* 4183 (BRI); 23 miles W. of "Pine Hill", Aug. 1959, *Chippendale* in NT.6437 (NT, NSW); Central Mt. Stuart, July 1958, *Chippendale* in NT.4687 (NT, CANB), Nov. 1949, *Gauba* (NSW); 13 miles S. of Barrow Creek, June 1955, *Chippendale* in NT.3332 (NT, BRI, CANB, MEL); 10 miles S. of Barrow Creek, May 1952, *Perry* 2723 (CANB, BRI, MEL, NT); Nov. 1968, *Byrnes* NB.1127 (NT, BRI); Barrow Creek, May 1922, *White* 82 (NSW); a few miles N. of Barrow Creek, in 1956, *Gray* (BRI); 8 miles N. of Barrow Creek, July 1956, *Forde* 211 (NT, BRI, CANB, MEL); Davenport Ra., *Giles* (MEL); Wycliffe Well, *Allen* 601 (NSW); just N. of Devils Marbles, July 1965, *Beaglehole* 10661 (NT); Hatches Creek, Nov. 1968, *Byrnes* NB1145 (NT, BRI); 31 miles S. of Tennant Creek, July 1968, *Must* 256 (NT); near Tennant Creek, May 1957, *Eddy* in NT.3776 (NT, CANB, NSW); 13 miles NW. of Tennant Creek, Apr. 1948, *Perry* 594 (CANB,

NT); 28 miles E. of "Amaroo", Aug. 1955, *Chippendale* in NT.1418 (NT, CANB). Without definite locality: Central Australia, in 1889, *Tietkins* (MEL) and July 1930, *Lord Somer's party* (MEL), stony hills, *Stuart* (MEL).

QUEENSLAND: Gregory North District: 70 miles E. of Urandangie, May 1966, *Pedley* 2026 (BRI); "Ardmore", 25 miles W. of Dajarra, Nov. 1947, *Everist* 3191 (BRI, CANB); Bouli-Dajarra range, July 1928, *Macgillivray* (BRI).

Acacia spondylophylla occurs on shallow, sandy or stony soil and extends from broken country near Dajarra in Queensland to the Macdonnell and Musgrave Ranges with a large gap to the Hamersley Range.

The species is a well-marked one. Bentham (Fl. Aust. 2 : 342 (1864)) noted it under *A. hippuroides*, but Mueller recognised its separateness. He has discussed and figured it well.

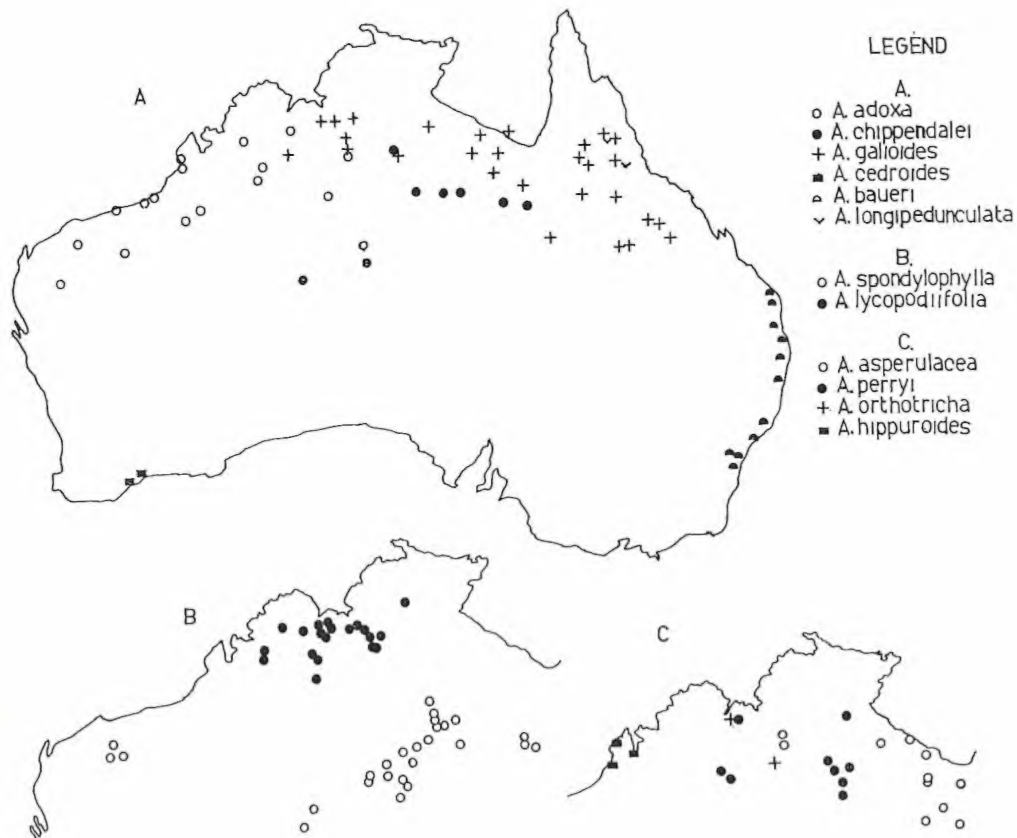


Fig. 3. Ranges of *Acacia lycopodiifolia* and related species.